

WHAT IS CLAIMED IS

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1. An electronic device which receives image data, and converts the image data for outputting therefrom, comprising:

10 a plurality of conversion units configured to convert the image data;

a control unit configured to control said conversion units;

15 an image data transfer unit configured to transfer the image data between said control unit and at least one of said conversion units; and

a clock unit configured to provide synchronization between said control unit and at least one of said conversion units for transfer of the image data.

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2. The electronic device as claimed in  
25 claim 1, wherein said control unit supplies to one

of said conversion units a signal indicative of a start of transfer of the image data when transferring the image data to the one of said conversion units.

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3. The electronic apparatus as claimed in  
10 claim 1, wherein said control unit supplies to one of said conversion units a signal indicating that the image data being transferred is a sub-scan portion when the sub-scan portion of the image data is being transferred to the one of said conversion  
15 units.

20 4. The electronic apparatus as claimed in  
claim 1, wherein said control unit supplies to one of said conversion units a signal indicating that the image data being transferred is a main-scan portion when the main-scan portion of the image data  
25 is being transferred to the one of said conversion

units.

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5. The electronic device as claimed in  
claim 1, wherein one of said conversion units  
supplies to said control unit a signal indicative of  
a start of transfer of the converted image data when  
10 transferring the converted image data to said  
control unit.

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6. The electronic apparatus as claimed in  
claim 1, wherein one of said conversion units  
supplies to said control unit a signal indicating  
that the image data being transferred is a sub-scan  
20 portion when the sub-scan portion of the converted  
image data is being transferred to said control unit.

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7. The electronic apparatus as claimed in  
claim 1, wherein one of said conversion units  
supplies to said control unit a signal indicating  
that the image data being transferred is a main-scan  
5 portion when the main-scan portion of the converted  
image data is being transferred to said control unit.

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8. The electronic device as claimed in  
claim 1, wherein at least one of said conversion  
units further includes an interruption unit  
configured to output an interruption signal to said  
15 control unit.

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9. The electronic device as claimed in  
claim 8, wherein said interruption unit outputs the  
interruption signal in response to a completion of  
conversion of image data that is equal to a  
predetermined amount.

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10. The electronic device as claimed in  
5 claim 8, wherein said interruption unit outputs the  
interruption signal in response to a completion of  
conversion of image data that is equal in amount to  
one page of a print sheet.

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11. The electronic device as claimed in  
claim 8, wherein said interruption unit outputs the  
15 interruption signal in response to an error  
occurring during the conversion of the image data.

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12. The electronic device as claimed in  
claim 1, wherein said control unit makes one of said  
conversion units convert the image data according to  
a request indicative of specifics of conversion that  
25 is applied to the image data.

5           13. The electronic device as claimed in  
claim 12, wherein said control unit selects one of  
said conversion units according to the request so as  
to make the selected one of said conversion units  
convert the image data.

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14. The electronic device as claimed in  
15 claim 12, wherein the request specifies a format of  
the image data prior to conversion and a format of  
the converted image data.

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15. The electronic device as claimed in  
claim 1, wherein the image data is transferred at a  
constant rate between said control unit and at least  
25 one of said conversion units.

5           16. The electronic device as claimed in  
claim 1, wherein each of said conversion units is a  
chip.

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17. The electronic device as claimed in  
claim 1, implemented on a printed circuit board that  
is connectable to an upper-order apparatus.

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18. The electronic device as claimed in  
20 claim 17, wherein the image data is received from  
the upper-order apparatus, and the converted image  
data is output to the upper-order apparatus.

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19. The electronic device as claimed in  
claim 1, wherein said control unit is also  
configured to convert the image data.

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20. An image forming apparatus,  
10 comprising:

hardware resources configured to form  
images;

a memory having a program stored therein  
for causing said hardware resources to form the  
15 images; and

an electronic device configured to receive  
image data and convert the image data for outputting  
therefrom, said electronic device including:

a plurality of conversion units configured  
20 to convert the image data;

a control unit configured to control said  
conversion units;

an image data transfer unit configured to  
transfer the image data between said control unit  
25 and at least one of said conversion units; and

a clock unit configured to provide synchronization between said control unit and at least one of said conversion units for transfer of the image data.

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21. The image forming apparatus as claimed  
10 in claim 20, further comprising a conversion request generating unit which generates a conversion request, wherein said electronic device converts the image data in response to the conversion request.

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22. The image forming apparatus as claimed  
in claim 21, further comprising a conversion-type  
20 specifying unit which generates information about a format of the image data prior to conversion and a format of the image data after the conversion, said information being supplied to said conversion request generating unit.

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23. The image forming apparatus as claimed  
5 in claim 22, wherein said conversion request  
generating unit generates the conversion request  
responsive to the information supplied from said  
conversion-type specifying unit.

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24. The image forming apparatus as claimed  
in claim 20, further comprising a memory-area  
15 allocating unit which allocates a memory area in  
which the image data to be converted by said  
electronic device and the converted image data are  
stored.

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25. A method of converting image data by  
use of a plurality of conversion units configured to  
25 convert the image data and a control unit configured

to control the conversion units, comprising the steps of:

notifying the control unit of a type of conversion that is to be performed with respect to  
5 the image data;

selecting, by the control unit, one of the conversion units in response to the notified type of conversion;

10 supplying, from the control unit to the selected one of the conversion units, a clock signal that provides synchronization for transfer of the image data;

15 supplying, from the control unit to the selected one of the conversion units, a signal indicative of a start of transfer of the image data; and

transferring the image data from the control unit to the selected one of the conversion units.

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26. The method as claimed in claim 25,  
25 further comprising the steps of:

transmitting, from the selected one of the conversion units to the control unit, a clock signal that provides synchronization for transfer of converted image data; and

5                   transferring the converted image data from the selected one of the conversion units to the control unit.

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27. A method of converting image data by use of a plurality of conversion units configured to convert the image data, a control unit configured to 15 control the conversion units, and a conversion request generating unit configured to request conversion, comprising the steps of:

generating, by the conversion request generating unit, information about the type of 20 conversion that is to be performed with respect to the image data;

instructing, by the conversion request generating unit, the control unit to perform the conversion based on the information;

25                   selecting, by the control unit, one of the

conversion units in response to the notified type of conversion;

supplying, from the control unit to the selected one of the conversion units, a clock signal 5 that provides synchronization for transfer of the image data;

supplying, from the control unit to the selected one of the conversion units, a signal indicative of a start of transfer of the image data; 10 and

transferring the image data from the control unit to the selected one of the conversion units.

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28. The method as claimed in claim 27, further comprising a step of notifying, by the control unit, the conversion request generating unit 20 of a completion of the conversion of the image data.